

Claims Status as of April 14, 2005

Claims 1-18 (cancelled)

19. (new) Stormwater handling apparatus, for receiving stormwater from a surface drainage system, which comprises:

an array of chambers buried beneath the surface of the earth within permeable media, for receiving and dispersing stormwater; and,

a solids retention subsystem, for receiving stormwater from said surface drainage system, for removing solids from the stormwater by a combination of settling and filtering, and for discharging the resultant partly clarified stormwater to said array;

wherein the solids retention subsystem is buried within and spaced apart from said array within said permeable media; and wherein stormwater discharged from the solids retention subsystem flows into said permeable media and then into said array.

20. (new) The apparatus of claim 19, further comprising a low-permeability membrane running along the surface of permeable media lying within the arch shape cross section of at least one of said interconnected chambers of the solids retention subsystem.

21. (new) The apparatus of claim 19, wherein the solids retention subsystem comprised a string of interconnected arch shape cross section chambers having perforated sidewalls.

22. (new) The apparatus of claim 21 further comprising: geotextile running along the sidewalls of the chambers.

23. (new) The apparatus of claim 22, wherein the arch shape cross section chambers of the solids retention subsystem have open bottoms, further comprising: geotextile running across the surface of permeable media lying within the arch shape cross section of the chambers of the solids retention

subsystem, the geotextile having a coarser filtering property than the geotextile running along the sidewalls.

24. (new) The apparatus of claim 19, wherein the solids retention subsystem is comprised of a string of interconnected arch shape cross section chambers having a layer of geotextile layer running along the surface of permeable media lying within the arch shape cross sections of the chambers.

25. (new) The apparatus of claim 22, wherein the solids retention subsystem is comprised of chambers having dissolved-pollutant capturing materials in vicinity of said sidewalls and geotextile.

26. (new) The apparatus of claim 25, wherein said dissolved-pollutant capturing materials comprise materials for capturing hydrocarbons or metal ions.

27. (new) The apparatus of claim 19, wherein the solids retention subsystem is comprised of round cross section perforated pipe surrounded by a layer of geotextile.

28. (new) The apparatus of claim 19 further comprising: a diverter, positioned upstream of said solids retention subsystem along the flow path of stormwater running from said surface drainage system to the solids retention subsystem, for channeling a portion of said running stormwater to said array when the stormwater inflow capacity of the solids retention subsystem is exceeded.

29. (new) The apparatus of claim 28, wherein the diverter has a first outlet connected to the solids retention subsystem, and a second outlet connected to said array; wherein the second outlet is higher in elevation than the first outlet; the diverter further comprising means for preventing flow through said second outlet until the elevation of stormwater within the diverter rises to a level which is higher than the elevation of said first outlet.

30. (new) The apparatus of claim 29 wherein said means for preventing flow through the second outlet is a weir within the diverter.

31. (new) The apparatus of claim 29 wherein said means for preventing flow through the second outlet is a valve.

32. (new) The apparatus of claim 19 wherein the solids retention subsystem has a length and wherein the array is comprised of a multiplicity of rows of chambers, the rows of the chambers running parallel to the length of the solids retention subsystem.

33. (new) The apparatus of claim 19 wherein the permeable media is crushed stone.

34. (new) The apparatus of claim 19, wherein at least a portion of the stormwater received by the array is dispersed from the array by flow of stormwater to an external stormwater receiving point, which apparatus further comprises: means for controlling water flowing from the chamber array to said external stormwater receiving point.

35. (new) Stormwater handling apparatus, which comprises:

(a) subterranean solids retention subsystem means comprised of chambers buried within permeable media, for receiving stormwater flowed from a surface drainage system, for removing solids from the stormwater therein by a combination of settling and filtering, and for discharging the resultant partially clarified stormwater into the permeable media surrounding the subsystem;

(b) means for flowing said partially clarified stormwater through the permeable media into an array of one or more chambers spaced apart from the solids retention subsystem and buried within the permeable media, so the stormwater may be then detained within, percolated from, and or discharged from, the array of chambers.

36. (new) The apparatus of claim 35 which further comprises: diverter means positioned upstream of subterranean solids retention subsystem for first receiving stormwater from the surface drainage system, and for flowing a portion of the stormwater directly into the chamber array when the flow of stormwater exceeds the flow capacity of the solids retention subsystem.

37. (new) A method for handling stormwater, which comprises:

(a) flowing stormwater from a surface drainage system into a subterranean solids retention subsystem which is comprised of chambers buried within permeable media, removing solids from the stormwater therein by a combination of settling and filtering, and discharging the resultant partially clarified stormwater into the permeable media surrounding the subsystem;

(b) then flowing said partially clarified stormwater through the permeable media into an array of one or more chambers spaced apart from the solids retention subsystem and buried within the permeable media, so the stormwater may be then detained within, percolated from, and or discharged from, the array of chambers.

38. (new) The method of claim 37 which further comprises: prior to step (a) first flowing the stormwater from the surface drainage system into a diverter which is upstream from the solids retention subsystem; and, flowing a portion of the incoming stormwater directly into the chamber array when the flow of stormwater exceeds the stormwater flow capacity of the solids retention subsystem.